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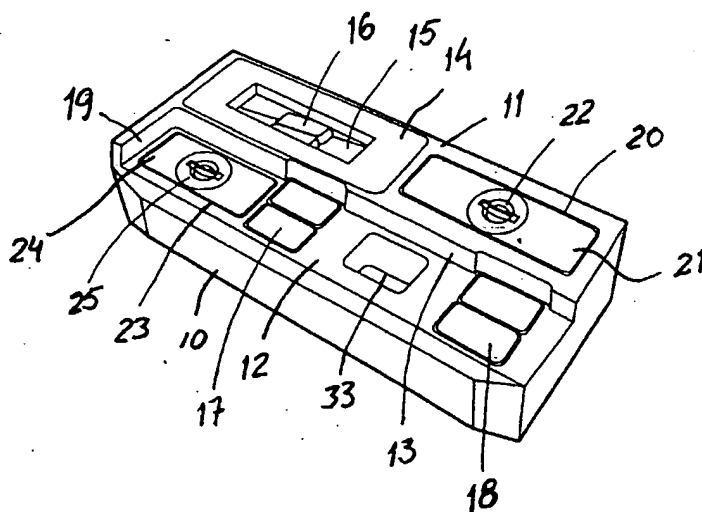
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(54) Title: OPENER FOR A MAGNETIC LATCH IN AN ANTI-THEFT DEVICE FOR CASSETTES



(57) Abstract: An opener for a magnetic latch in an anti-theft device for a cassette, comprising a frame or box for enclosing the cassette and having a blocking element which by means of the magnetic latch is locked in a position preventing withdrawal of the cassette from the frame or box. A magnet (16; 17; 18) for opening the magnetic latch by engaging the anti-theft device with the magnet is provided in the opener. The opener is constructed for operating optionally a magnetic latch (28) which protrudes from the anti-theft device, and a magnetic latch which is located inside an edge surface (31) of the anti-theft device. For this purpose the opener comprises a body (10) having a raised portion with a flat upper surface (11) which at a shoulder (13) connects with the lowered portion with a flat upper

surface (12) extending along the shoulder. The raised portion has a recess (15) with a magnet (16) on the bottom thereof to receive therein the protruding magnetic latch for engagement with the magnet, and the lowered portion has in the flat upper surface one or more magnets (17, 18) mounted flush therein for engagement of said edge surface (31) with the magnet or magnets, respectively, with the anti-theft device abutting the shoulder.

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Opener for a magnetic latch in an anti-theft device for cassettes

5 The invention relates to an opener for a magnetic latch in an anti-theft device for a cassette, comprising a frame or box for enclosing the cassette and having a blocking element which by means of the magnetic latch is locked in a position preventing withdrawal of the cassette
10 from the frame or box, a magnet for opening the magnetic latch by engaging the anti-theft device with the magnet being provided in the opener.

 Anti-theft devices of the kind referred to above having a magnetic latch protruding from the frame or box
15 have been used for a long time in order to protect for example CD cassettes and video cassettes against theft in shops and department stores, and such anti-theft devices are disclosed for example in EP-B1 0 451 189, EP B1-0 581 811, and EP-B1-0 620 888. In order that the anti-theft
20 device can be removed in a rational manner from the protected product when this is handed out from the counter of the shop or department store openers have been developed which are attached to the counter and have a recess with a magnet on the bottom thereof the magnetic latch being
25 introduced into the recess when the anti-theft device is to be removed, in order that the magnet shall act upon the magnetic latch and bring it to the open position so that the cassette and the anti-theft device can be separated. Recently there have been introduced on the market also
30 anti-theft devices with another type of magnetic latch. These magnetic latches are mounted inside an edge surface of the frame or box and are disclosed for example in EP-A2-0 508 201 and EP-B1-0 712 460. In order to open the magnetic latch it is necessary to engage said edge surface
35 with a magnet in register with the site of the latch, and this cannot be effected by using existing openers for

magnetic latches of the protruding type. It is thus necessary to have a further opener in order to remove anti-theft devices with the magnetic latch inside an edge surface of the frame or box, which no doubts makes the use of the anti-theft devices more complicated. The market demands as simple and easily handled openers as possible.

The purpose of the invention is to satisfy this demand, which is achieved by providing an opener of the kind referred to, which according to the invention is constructed for operating optionally a magnetic latch which protrudes from the anti-theft device, and a magnetic latch which is located inside an edge surface of the anti-theft device, and comprises a body having a raised portion with a flat upper surface which at a shoulder connects with a lowered portion with a flat upper surface extending along the shoulder the raised portion having a recess with a magnet on the bottom thereof to receive therein the protruding magnetic latch for engagement with the magnet, and the lowered portion having in the flat upper surface one or more magnets mounted flush therein for engagement of said edge surface with the magnet or magnets, respectively, with the anti-theft device abutting the shoulder.

In order to explain the invention in more detail an illustrative embodiment of the opener according to the invention will be described below reference being made to the accompanying drawings in which

FIG. 1 is a perspective view of the opener ready for use,

FIG. 2 is a perspective view of the opener in a blocked condition,

FIG. 3 is a perspective view of the opener and illustrates conversion of the opener between the condition in which it is ready for use, and the blocked condition,

FIG. 4 is a perspective view illustrating the use of the opener when an anti-theft device having a protruding magnetic latch shall be opened, and

FIG. 5 is a corresponding perspective view illustrating the use of the opener when an anti-theft device having the magnetic latch inside an edge surface thereof shall be opened.

The opener disclosed in the drawings comprises a rigid body 10 of a suitable plastic material, which can be attached to a counter or the like by means of screws. The block forms on the upper side a raised flat surface 11 and a lowered flat surface 12 a vertical shoulder 13 being provided between the two surfaces. In the flat surface 11 a metal frame 14 confines a recess 15 a permanent magnet 16 being provided on the bottom of the recess. Two permanent magnets 17 and 18 are mounted flush with the flat surface 12 mutually spaced in the longitudinal direction of said surface. At one end of the surface 12 the body 10 forms an abutment 19 projecting from the surface 12.

In the surface 11 a recess 20 is provided in which a block 21 matching the recess is located having the upper surface thereof flush with the surface 11. The block is locked in the recess 20 by means of a key lock 22. In the same manner a recess 23 is provided in the surface 12 a matching block being located in said latter recess. This block is locked by means of a key lock 25 in the recess 23 and has the upper side thereof flush with the surface 12. With the blocks 21 and 24 located and locked in their associated recesses 20 and 23, respectively, the opener is ready for use, and this condition is disclosed in FIG. 1 as well as FIGS. 4 and 5.

An anti-theft device 26, FIG. 4, for example such a device as is disclosed in EP-B1-0 451 189, EP-B1-0 581 811, and EP-B1-0 620 888, comprises a frame 27 for receiving therein a cassette for a CD or a video tape. A magnetic

latch 28 protrudes from the frame preventing directly or indirectly removal of the anti-theft device from the cassette. When the cassette and the anti-theft device are to be separated the anti-theft device with the cassette
5 located therein is pushed down against the opener in the direction of the arrow A the magnetic latch being introduced into the recess 15 to be engaged with the magnet 16 which brings the latch to the open position. Then, the anti-theft device can be removed from the cassette. In
10 order to match the magnetic latch 28 the magnet 16 in the recess is mounted in an inclined position, but for other magnetic latches the magnet can be mounted in a horizontal position. Preferably, the magnet can be depressed against a bias when the magnetic latch is engaged with the magnet.
15 The bias can be provided by a spring but in the preferred embodiment it is provided by magnetic force the magnet 16 being attracted to the metal frame 14 but is kept spaced therefrom by means of spacers in the recess 15.

If instead an anti-theft device 29, FIG. 5, is
20 concerned for example according to EP-A2-0 508 201 and EP-B1 0 712 460, which comprises a frame 30 and has the magnetic latch provided inside an edge surface 31 of the frame, the part of the opener which has its site in the surface 12 will be used. The magnetic latch can comprise a
25 metal tongue or two such tongues mutually spaced in the longitudinal direction of said edge surface, which can be acted upon magnetically. The magnets 17 and 18 are located such that when said edge surface of the anti-theft device is displaced on the surface 12 in the direction of the
30 arrow B and the anti-theft device is engaged with the shoulder 13 and the abutment 19, the tongue - if only one is provided - will be in register with one of the magnets 17 and 18, or the tongues - if two tongues are provided - each will be in register with one of the magnets 17 and 18.
35 By this location of the anti-theft device the magnetic

latch is brought to the opened position for removal of the anti-theft device from the cassette. In one embodiment of a magnetic latch of this type the latch comprises a spring biased slide which can be displaced in the frame along said edge surface, the slide being kept in the blocking position by a latch tongue attached to the frame and engaging a shoulder on the slide. When the anti-theft device is engaged with the opener the slide can be pressed against the abutment 19 in order to be slightly pushed into the frame against the spring bias so that the magnetically operated latch tongue can be easier released under influence of the magnets. The friction between the latch tongue and the shoulder otherwise could impair the disengagement of the tongue at the shoulder under influence of the magnet. This drawback is overcome by pushing the slide into the frame in the manner mentioned. In another embodiment the slide is not spring biased and in that case it is not necessary to push the slide into the frame in order to disengage the latch tongue under influence of the magnet.

The opener described facilitates handling of anti-theft devices with a magnetic latch of one type or the other.

It may be desired that the opener cannot be used outside business hours, and the blocks 21 and 24 are provided in order to make it possible to block the opener. By means of a key 32 the lock 22 in the block 21 can be opened so that the block can be lifted from the recess 20 as shown in FIG. 3 in order to be located as a cover over the recess 15 and be locked in this position as shown in FIG. 2. In the same manner the lock 25 in the block 24 can be opened and the block be moved from the recess 23 to a recess 33 in the surface 12 in which it is locked by means of the lock 25 in a position in which the block protrudes from the surface 12 as is shown also in FIG. 2. Locking and

unlocking of the blocks can be effected by transverse pins on a rotatable lock spindle being rotated by means of the key to engage or disengage, respectively, grooves in the sidewalls of the respective recesses. In the recess 14 the pins can engage under the frame 15. The recess 33 has not necessarily the same size as the block 24; it can be dimensioned to receive a smaller projecting portion on the lower side of the block. This arrangement is provided in the embodiment disclosed. With the blocks 21 and 24 in blocking position according to FIG. 2 the magnetic latches cannot come so close to the magnets as is necessary in order that the magnetic latches shall be opened by means of the magnets.

CLAIMS

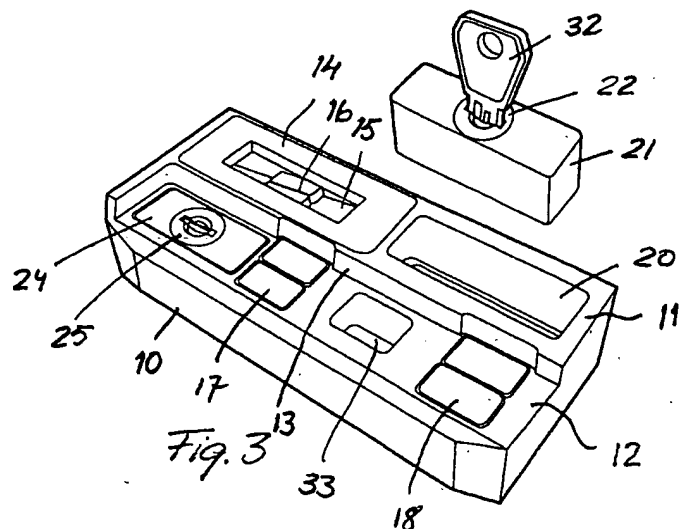
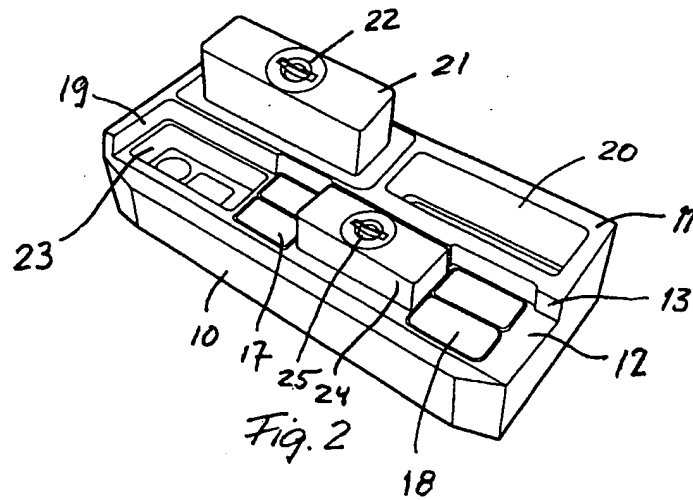
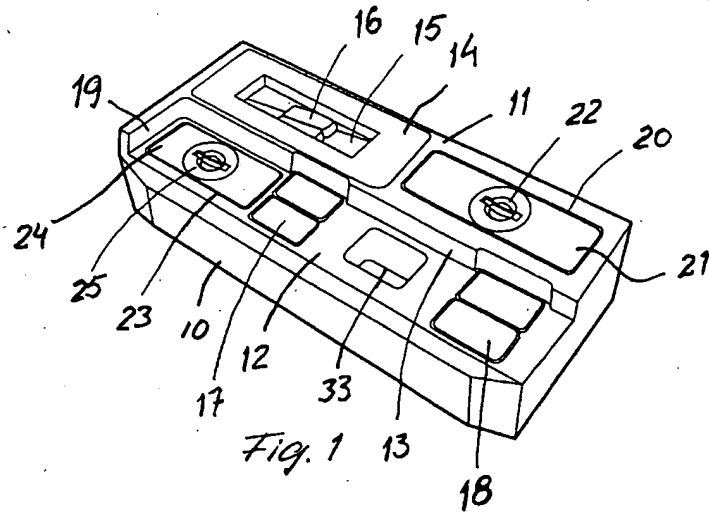
1. An opener for a magnetic latch in an anti-theft device for a cassette, comprising a frame (27; 30) or box for enclosing the cassette and having a blocking element which by means of the magnetic latch is locked in a position preventing withdrawal of the cassette from the frame or box, a magnet (16; 17; 18) for opening the magnetic latch by engaging the anti-theft device with the magnet being provided in the opener characterized in that the opener is constructed for operating optionally a magnetic latch (28) which protrudes from the anti-theft device, and a magnetic latch which is located inside an edge surface (31) of the anti-theft device, and comprises a body (10) having a raised portion with a flat upper surface (11) which at a shoulder (13) connects with a lowered portion with a flat upper surface (12) extending along the shoulder, the raised portion having a recess (15) with a magnet (16) on the bottom thereof to receive therein the protruding magnetic latch for engagement with the magnet, and the lowered portion having in the flat upper surface one or more magnets (17, 18) mounted flush therein for engagement of said edge surface (31) with the magnet or magnets, respectively, with the anti-theft device abutting the shoulder.

2. Opener according to claim 1 wherein an abutment (19) for the anti-theft device is provided at one end of the lowered portion.

3. Opener according to claim 1 or 2 wherein the flat upper side (11) of the raised portion and the flat upper side (12) of the lowered portion form a recess (20; 23) to receive therein a block (21; 24) which can be locked in the recess with the upper side of the block flush with the flat upper side of the raised and the lowered portion, respectively.

4. Opener according to claim 3 wherein the block (21) for the raised portion can be positioned as a cover over the recess (15) therein and can be locked in this position.

5. Opener according to claim 3 or 4, wherein the block (24) for the lowered portion can be locked on the flat upper side of said portion protruding therefrom.



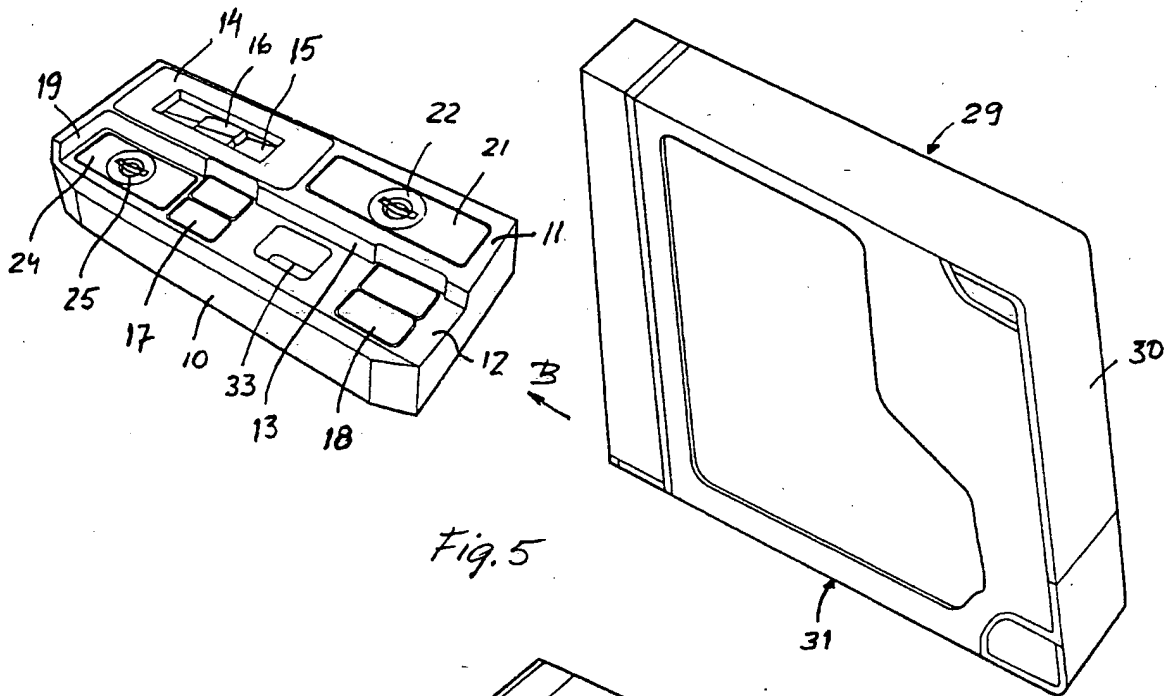


Fig. 5

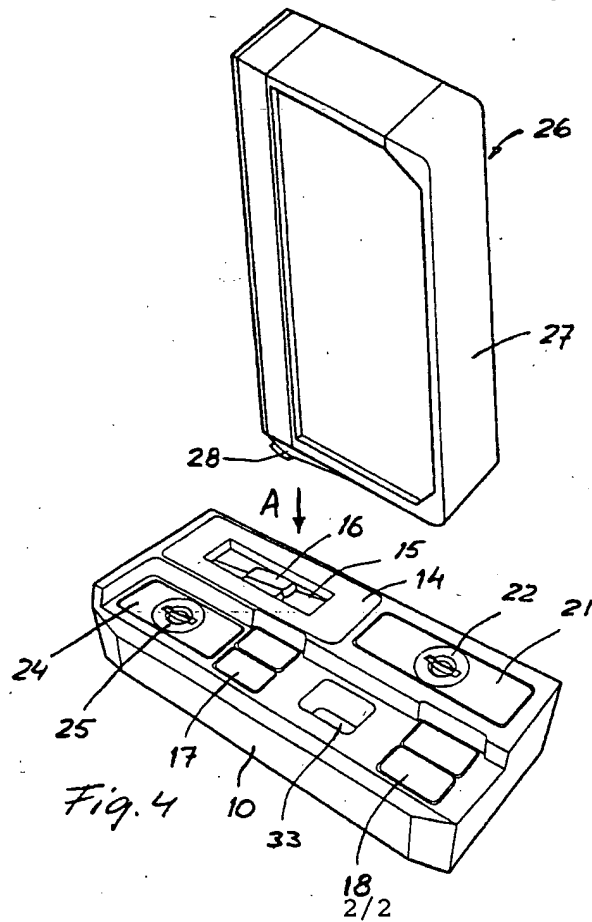


Fig. 4

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/02070

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: E05B 73/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: E05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0483422 A1 (FOTHERINGHAM, S.M. ET AL), 6 May 1992 (06.05.92) --	
A	US 4774504 A (M.F. HARTINGS), 27 Sept 1988 (27.09.88) --	
A	US 5768922 A (M.R. LAX), 23 June 1998 (23.06.98) --	
A	US 4339853 A (H. LIPSCHITZ), 20 July 1982 (20.07.82) -- -----	

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

* Special categories of cited documents	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
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"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 8 January 2001	Date of mailing of the international search report 14 -02- 2001
Name and mailing address of the ISA: Swedish Patent Office Box 5055, S-102 42 STOCKHOLM Facsimile No. +46 8 666 02 86	Authorized officer Christer Wendenius / MRO Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

Information on patent family members

04/12/00

International application No.

PCT/SE 00/02070

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